

stances having thrown him much into the society of astronomers, he for many years took up that branch of science as his favourite recreation. He built himself an observatory in the grounds surrounding his house at West Hill, Wandsworth, and furnished it with one of Cooke's Equatorials and a Transit Instrument by Simms. Here he carried on a series of observations which probably were known to but few even of his intimate friends, his retiring nature preventing him from giving that publicity to his works which some of them deserved.

His delight was to surround himself with men interested in science, and his great hospitality and warm-heartedness were of assistance to many. He enjoyed the satisfaction of seeing a family grow up around him who took great interest in their father's scientific pursuits. He died on October 24, 1879, after an illness, not of long duration, but of intense suffering. He was elected a Fellow of the Society on June 10, 1859.

JOHN WATERHOUSE, F.R.S., was born at Halifax, Yorkshire, on August 3, 1806.

His father, John Waterhouse, of Well Head, was the representative of a family which, for 400 years, had been intimately connected with the prosperity of the town and neighbourhood.

Very early in life he evinced a decided taste for scientific studies, and the training which he received at school only served to increase this preference, and enabled him to obtain a sufficient knowledge of mathematics, which he turned to good account in after years in the various branches of physical research to which he gave attention.

A certain weakness of constitution, which prevented him in his youth from great physical exertion, only seemed to stimulate his mental activity; and when, in search of change of climate with a view to invigorated health, he undertook a voyage round the world, the training which he had received and the bent of his mind enabled him to record his observations in a journal which is a storehouse of scientific facts and notices, and which, had not his modesty shrunk from having it printed, would have proved the record of a "scientific expedition" when such journeys were far less numerous and attended by far greater inconveniences than at present. During this voyage his love of nature and the wide range of his scientific tastes acquired an increased stimulus; and when he returned home his experience in observation and his knowledge of natural phenomena in different parts of the world enabled him to enter with renewed pleasure into the less active study of the physical sciences.

He established an astronomical and meteorological observatory, and in connection with the latter published a few years ago a complete work on the "Meteorology of Halifax," which may be regarded as a model for all such local observations.

Practical botany also engaged his attention, and his gardens

were distinguished throughout the neighbourhood for the rich variety of their contents, of which he was justly proud.

His favourite studies were astronomy, geology, electricity, and light, and in connection with the latter he was identified with the early progress of Photography, and with the discovery by the Rev. J. B. Reade, F.R.S., of the method of taking portraits, first upon leather and afterwards upon paper, instead of upon silver plates or glass, and also with the chemical means of giving permanence to such images.

He was also specially interested in the progress of microscopy, and was himself both a skilful observer and an adept at those manipulations which are necessary in the preparation of objects for examination. He was also extremely fond of music, and was a skilful performer on the violoncello. Indeed, he seemed able to turn his hands to any pursuit, and such was the aptitude which he possessed for grasping the general principles upon which any practical operation depended, that he speedily was enabled to do with proficiency work which required under ordinary circumstances years of patient labour and practice. Few men could handle their tools better than he could; for, in addition to his scientific acquirements, he was a good mechanic, and many of his turnings in ivory were almost unrivalled for their beauty and skilful execution.

Those who knew him best can best appreciate the many-sided features of his genius, and will long remember the evenings spent at Well Head, where, although reticent in public, he would converse with ease upon the various departments of mathematical or physical investigation with an originality of illustration which showed that he was practically, as well as theoretically, acquainted both with the facts and principles of science.

As might be expected, he was also identified with those movements which had for their object the spread of scientific knowledge; and, in connection with the local Literary and Philosophical Society (of which he was one of the founders and for many years the president), he lectured on more than one occasion on various scientific subjects. He also enriched the museum with many choice objects of natural history, collected during his travels.

He was also connected with the Mechanics' Institute during its early years, and was active as a magistrate, being for many years Chairman of the County Bench at Halifax, and a deputy lieutenant for the West Riding.

In later years a stroke of paralysis, which compelled his retirement into private life, only made him appreciate his gardens the more, until a severer form of his malady prevented all mental pursuits, and finally terminated his life on February 12, 1879, in the 72nd year of his age.

He was a Fellow of the Royal Society, of the Royal Microscopical Society, of the Geological Society, and several others.

Although a certain timidity of disposition prevented him from making original discoveries, few men were better acquainted with the whole range of scientific inquiry; and his kind and generous disposition, as well as the means at his command, enabled him to liberally assist many who were pursuing the difficult path of original investigation.

He was elected a Fellow of the Society on May 12, 1837; and at the following meeting on June 9 contributed an account of his observations of the eclipse of May 15, 1836 (*Monthly Notices*, vol. iv., p. 89). This was the only communication he made to the Society.

SAMUEL CHARLES WHITBREAD, F.R.S., of Southill Park and Cardington, in the county of Bedford, Justice of the Peace, was the second son of Samuel Whitbread, M.P., the well-known statesman and adherent of Fox. His mother, Lady Elizabeth, was the sister of Charles, Earl Grey, who was Prime Minister. He was born on February 16, 1796. From 1820 to 1830 he was M.P. for Middlesex, and in 1831 he served as High Sheriff of Bedfordshire. He succeeded to the large landed estates of his family in 1867, on the death of his brother, William Henry Whitbread, M.P., of Southill. On June 28, 1824, he married the Hon. Juliana, second daughter of Henry Otway, twenty-first Lord Dacre, by whom he had one daughter, Juliana, late Countess of Leicester, and one son, Samuel Whitbread, now M.P. for Bedford. His wife died in 1858. On February 18, 1868, he married Lady Mary Stephenson, daughter of William Charles, fourth Earl of Albemarle, who survives him. Mr. Whitbread took considerable interest in astronomy, and built an observatory at his seat at Cardington: a few observations made there were published in the *Monthly Notices*. He was elected a Fellow of the Society on January 12, 1849, and succeeded the late Mr. George Bishop as Treasurer in 1857. This office he held till 1878, when he was reluctantly compelled by the state of his health to relinquish it.

Mr. Whitbread also was one of the three founders of the Meteorological Society in 1850, the late Dr. John Lee and Mr. James Glaisher being the other two. He was always interested in the prosperity of the Society, and a long series of careful meteorological observations were made at Cardington under his direction. He was elected a Fellow of the Royal Society on June 1, 1854.

The brewery, in connection with which the name of Whitbread is so well known, was founded by Mr. Whitbread's grandfather, who is remembered as a benefactor to the town of Bedford.

Mr. Whitbread died at his London residence, 49 St. George's Square, on May 27, 1879. He had been for some time seriously ill, but his death was somewhat sudden.